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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,367	03/15/2001	Yuichi Koga	05225.0196	3413

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EXAMINER	
PHAN, RAYMOND NGAN	

ART UNIT	PAPER NUMBER
2111	

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/808,367	KOGA, YUICHI	
	Examiner	Art Unit	
	Raymond Phan	2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2004* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Part III DETAILED ACTION

Notice to Applicant(s)

1. This action is responsive to the following communications: amendment filed on February 19, 2004.

2. This application has been examined. Claims 1-12 are pending.

3. The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 2111.

Specification

4. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to teach/suggest the frequency controller as claimed in claims 2-4, 6-7

The disclosure is non-enabling for claims 2-4, 6-7 because the limitations recited in the claims 2-4, 6-7 were merely hinted as possible modifications to the claimed invention and no circuit diagrams or suggestion were provided to make modifications as hinted. Therefore, undue experimentation is required and the

disclosure does not enable a person skilled in the art to make and use the claimed invention.

The amendment, filed on Feb 19, 2003, is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

a. frequency controller 122 (page 7, line 10) is not shown in the drawing [figure 2].

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

5. Claims 2-4, 6-7 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Coteus et al. (US NO. 6,202,110) in view of Wu (US Pub No. 2001/0003198).

In regard to claims 1, 9, 12, Coteus et al. disclose the electronic equipment comprising a board including an on-board memory for installing memory modules, and a slot-type memory area for installing slot-type memory modules (see col. 3,

lines 43-60); at least one on-board type memory module installed in the on-board memory area (see col. 3, liens 43-60); at least one slot-type memory module installed in the slot-type memory area, each memory slot coupled in series to the on-board memory modules (see col. 4, lines 11-53); at least one slot-type memory module installed in the slot-type memory area; a memory controller coupled in series to the on-board memory and slot-type memory modules (see col. 4, lines 11-53); a memory bus that couples to the memory controller to the on-board memory and slot-type memory modules in series (see col. 4, lines 11-53). But Coteus et al. do not specifically disclose the memory module having specified operating frequencies. However Wu discloses the plurality of memory modules having plurality of operating frequencies (see paragraphs 0029-0032). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Wu within the system of Coteus et al. because it would result in optimal memory performance.

In regard to claim 2, Coteus et al. teach the claimed subject matter as discussed above except the teaching of frequency controller that designates the operating frequency of the memory bus. However Wu discloses the frequency controller that designates the operating frequency of the memory bus (see paragraphs 0029-0030). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Wu within the system of Coteus et al. because it would result in optimal memory performance.

In regard to claims 3, 6, Coteus et al. teach the claimed subject matter as discussed above except the teaching of designates the specified operating frequency of the slot-type memory modules as the operating frequency for both the

on-board memory and slot-type memory modules when the operating frequency of the on-board memory module is different from the operating frequency of the slot-type memory module. However Wu discloses designates the specified operating frequency of the slot-type memory modules as the operating frequency for both the on-board memory and slot-type memory modules when the operating frequency of the on-board memory module is different from the operating frequency of the slot-type memory module (see paragraphs 0034-0040). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Wu within the system of Coteus et al. because it would result in optimal memory performance.

In regard to claims 4, 7, Coteus et al. teach the claimed subject matter as discussed above except the teaching of designates the specified operating frequency of the on-board memory modules as the operating frequency for both the on-board memory and slot-type memory modules when the operating frequency of the on-board memory module is different from the operating frequency of the slot-type memory module. However Wu discloses designates the specified operating frequency of the on-board memory modules as the operating frequency for both the on-board memory and slot-type memory modules when the operating frequency of the on-board memory module is different from the operating frequency of the slot-type memory module (see paragraphs 0034-0040). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Wu within the system of Coteus et al. because it would result in optimal memory performance.

In regard to claim 5, Coteus et al. teach the claimed subject matter as discussed above except the teaching of an input mechanism (i.e. registers)

designating whether to use the specified operating frequency of the on-board memory module or the slot-type memory module, when the operating frequency of the on-board memory module is different than the operating frequency of the slot-type memory module. However Wu discloses an input mechanism (i.e. registers) designating whether to use the specified operating frequency of the on-board memory module or the slot-type memory module, when the operating frequency of the on-board memory module is different than the operating frequency of the slot-type memory module (see paragraphs 0034-0040). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Wu within the system of Coteus et al. because it would result in optimal memory performance.

In regard to claim 8, even though the teachings of Coteus et al. or Wu do not specifically disclose the notification to the user when the memory controller detects the defective (i.e. different operating frequencies), however one skilled in the art would have understood that they can choose to implement the notification display to fulfill their need.

In regard to claim 10, Coteus et al. teach the claimed subject matter as discussed above except the teaching of determining whether a defective memory module (i.e. SPD) based on the attribute information on the respective on-board and slot-type memory modules (see paragraphs 0028-0030); and controlling start-up operation of the equipment based on the determination (see paragraph 0031). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Wu within the system of Coteus et al. because it would result in optimal memory performance.

In regard to claim 11, Coteus et al. disclose the electronic equipment comprising a board including an on-board memory for installing memory modules, and a slot-type memory area for installing slot-type memory modules (see col. 3, lines 43-60); at least one on-board type memory module installed in the on-board memory area (see col. 3, liens 43-60); at least one slot-type memory module installed in the slot-type memory area, each memory slot coupled in series to the on-board memory modules (see col. 4, lines 11-53); at least one slot-type memory module installed in the slot-type memory area; a memory controller coupled in series to the on-board memory and slot-type memory modules (see col. 4, lines 11-53); a memory bus that couples to the memory controller to the on-board memory and slot-type memory modules in series (see col. 4, lines 11-53). But Coteus et al. do not disclose the reading the attribute information of the on-board type and slot-type memory modules and determining whether a defective memory module (i.e. SPD) based on the attribute information on the respective on-board and slot-type memory modules. However Wu discloses the reading the attribute information of the on-board type and slot-type memory modules (see paragraphs 0029-0029) and determining whether a defective memory module (i.e. SPD) based on the attribute information on the respective on-board and slot-type memory modules (see paragraph 0030). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Wu within the system of Coteus et al. because it would result in optimal memory performance.

Response to Arguments

8. In view of remark filed on February 19, 2004, claims 1-12 have been fully considered but they are not deemed to be persuasive.

Applicant(s) argue that ...Coteus et al. fails or suggest to teach at least "an on-board memory area" and "at least one on-board type memory module"... (page 9). The Examiner does not agree. Coteus et al. teach at least board 15 which having an on-board type memory module 31 which includes the on-board memory area (i.e. memory slot or bank) (see figure 2, col. 3, line 25 through col. 4, line 11).

The remaining claims are rejected for at least the same reason as stated above since they are dependent claims.

Conclusion

9. All claims are rejected.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Raymond Phan, whose telephone number is (703) 306-2756. The examiner can normally be reached on Monday-Friday from 6:30AM- 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Primary, Paul Myers can be reached on (703) 305-9656 or via e-mail addressed to paul.myers@uspto.gov. The fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**raymond.phan@uspto.gov**].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Paul R. Myers

PAUL R. MYERS
PRIMARY EXAMINER

RP

Raymond Phan
4/22/04